

SEQUENCE LISTING



<110> Briggs, Robert E.

Tatum, Fred M.

<120> Construction of Pasteurella Haemolytica Vaccines

<130> 295.77957

C
<140> 09/210,747

<141> 1998-12-15

<150> 08/643,299

<151> 1996-05-08

<150> 08/162,392

<151> 1993-12-06

<160> 6

<170> PatentIn Ver. 2.0

<210> 1

<211> 1556

<212> DNA

<213> Pasteurella cf. haemolytica

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C
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aaaatggaaa aactaacttt aaccccgatt tcccgagtag aaggcgagat caatttacct 240

ggttctaaaaa gcctgtctaa ccgagccotta ttattagccg ccttagccac cggtagcact 300

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ggagctttta aggtcaaaa cggcttatca ctgttctcg gcaatgcagg cacggcaatg 480

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ggtgaaccaa gaatgaaaga acgcccgatt aaacacttag tcgatgctt acgccaagta 600

ggggcagagg tacagtattt agaaaatgaa ggctatccac cggtggcaat tagcaatagc 660

gtttgcaggg gcggaaaagt gcaaattgac ggctcgattt ccagccaatt tctaaccgca 720

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<213> *Pasteurella* cf. *haemolytica*

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10

15

Asn Leu Pro Gly Ser Lys Ser Leu Ser Asn Arg Ala Leu Leu Leu Ala

20

25

30

Ala Leu Ala Thr Gly Thr Thr Gln Val Thr Asn Leu Leu Asp Ser Asp

35

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45

C'
WT Asp Ile Arg His Met Leu Asn Ala Leu Lys Ala Leu Gly Val Lys Tyr

50

55

60

Glu Leu Ser Asp Asp Lys Thr Val Cys Val Leu Glu Gly Ile Gly Gly

65

70

75

80

Ala Phe Lys Val Gln Asn Gly Leu Ser Leu Phe Leu Gly Asn Ala Gly

85

90

95

Thr Ala Met Arg Pro Leu Ala Ala Leu Cys Leu Lys Gly Glu Glu

100

105

110

Lys Ser Gln Ile Ile Leu Thr Gly Glu Pro Arg Met Lys Glu Arg Pro

115

120

125

Ile Lys His Leu Val Asp Ala Leu Arg Gln Val Gly Ala Glu Val Gln

130

135

140

Tyr Leu Glu Asn Glu Gly Tyr Pro Pro Leu Ala Ile Ser Asn Ser Val

C
wt
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150

155

160

Cys Arg Gly Gly Lys Val Gln Ile Asp Gly Ser Ile Ser Ser Gln Phe

165

170

175

Leu Thr Ala Leu Leu Met Ser Ala Pro Leu Ala Glu Gly Asp Met Glu

180

185

190

Ile Glu Ile Ile Gly Asp Leu Val Ser Lys Pro Tyr Ile Asp Ile Thr

195

200

205

Leu Ser Met Met Asn Asp Phe Gly Ile Thr Val Glu Asn Arg Asp Tyr

210

215

220

Lys Thr Phe Leu Val Lys Gly Lys Gln Gly Tyr Val Ala Pro Gln Gly

225

230

235

240

Asn Tyr Leu Val Glu Gly Asp Ala Ser Ser Ala Ser Tyr Phe Leu Ala

245

250

255

C
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260

265

270

Ile Gln Gly Asp Arg Leu Phe Ala Asp Val Leu Glu Lys Met Gly Ala

275

280

285

Lys Ile Thr Trp Gly Glu Asp Phe Ile Gln Ala Glu Gln Ser Pro Leu

290

295

300

Lys Gly Val Asp Met Asp Met Asn His Ile Pro Asp Ala Ala Met Thr

305

310

315

320

Ile Ala Thr Thr Ala Leu Phe Ala Glu Gly Glu Thr Val Ile Arg Asn

325

330

335

Ile Tyr Asn Trp Arg Val Lys Glu Thr Asp Arg Leu Thr Ala Met Ala

340

345

350

Thr Glu Leu Arg Lys Val Gly Ala Glu Val Glu Glu Gly Glu Gly

355

360

365

C
cont
Glu Asp Phe Ile Arg Ile Gln Pro Leu Ala Leu Glu Asn Phe Gln His

370

375

380

Ala Glu Ile Glu Thr Tyr Asn Asp His Arg Met Ala Met Cys Phe Ser

385

390

395

400

Leu Ile Ala Leu Ser Asn Thr Glu Val Thr Ile Leu Asp Pro Asn Cys

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Thr Ala Lys Thr Phe Pro Thr Tyr Phe Arg Asp Leu Glu Lys Leu Ser

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Val Arg

<210> 3

<211> 14

<212> DNA

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<220>

<223> Description of Artificial Sequence: Recognition

sequence of restriction enzymes PhaI and SfaNI in
the 5' to 3' orientation.

<220>

<221> unsure

<222> (6)..(14)

<223> The symbol n at positions 6 to 14 represents any

nucleotide.

<400> 3

gcatcnnnn nnnn

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<210> 4

<211> 14

<212> DNA

<213> Artificial Sequence

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unst

<220>

<223> Description of Artificial Sequence: Recognition

site for restriction enzymes *PhaI* and *SfaNI* in the
3' to 5' orientation.

<220>

<221> unsure

<222> (6)..(14)

<223> The symbol *n* at positions 6 to 14 represents any
nucleotide.

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<210> 5

<211> 31

<212> DNA

<213> Escherichia coli

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<210> 6

<211> 25

<212> DNA

<213> Escherichia coli

<400> 6

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